IN THE CLAIMS

1. (Previously presented) A method of manufacturing a composite material comprising:

forming a mixture comprising a plurality of carbon fibers and a borazine oligomer;

subjecting the mixture to a first heating, for 12 hours to 56 hours; and

subjecting the mixture to a second heating;

wherein the temperature of the first heating is 60 °C to 80 °C, and the pressure during the first heating is at least 0.5 MPa,

the temperature of the second heating is at most 400 °C, and the greatest pressure of the second heating is at least 15 MPa, and

the composite material comprises carbon fibers in a boron nitride matrix, and the composite material has a density of at least 1.62 g/cc.

2. (Original) The method of claim 1, further comprising subjecting the mixture to a third heating, wherein the temperature of the third heating is at least 1200 °C.

3. (Original) The method of claim 1, wherein the borazine oligomer is obtained by heating borazine for 24 to 48 hours, at a temperature of 60 °C to 80 °C.

4. (Cancelled)

5. (Original) The method of claim 1, wherein the pressure during the first heating is 1 MPa to 6 MPa.

6. (Original) The method of claim 1, wherein the temperature of the first heating is 65 °C to 75 °C, and the pressure during the first heating is 1.5 MPa to 5 MPa.

7. (Original) The method of claim 1, wherein the temperature of the first heating is 68 °C to 72 °C, and the pressure during the first heating is 2.0 MPa to 4.6 MPa.

8. (Original) The method of claim 1, wherein the temperature of the second heating is increased at a rate of 0.25 °C/min to 3 °C/min.

9. (Original) The method of claim 1, wherein the temperature of the second heating is increased at a rate of 0.75 °C/min to 1.25 °C/min.

10. (Original) The method of claim 1, wherein the temperature of the second heating is increased at a rate of 0.9 °C/min to 1.1 °C/min.

11. (Original) The method of claim 1, wherein the greatest temperature reached during the second heating is 130 °C to 170 °C, and the greatest pressure is 12 MPa to 32 MPa.

12. (Original) The method of claim 1, wherein the greatest temperature reached during the second heating is 140 °C to 160 °C, and the greatest pressure is 16 MPa to 26 MPa.

13. (Original) The method of claim 1, wherein the greatest temperature reached during the second heating is 148 °C to 152 °C, and the greatest pressure is 21 MPa to 23 MPa.

14-17. (Cancelled)

18. (Previously presented) The method of claim 1, wherein the composite material has a density of 1.62 to 1.75 g/cc.

19. (Previously presented) The method of claim 1, wherein the composite material has a wear rate of at most 0.4 mg/m at an energy level of 100 kJ/kg to 1100 kJ/kg, and a coefficient of friction of at least 0.22 at an energy level of 100 kJ/kg to 1200 kJ/kg.

20. (Previously presented) A method of manufacturing a composite material comprising boron nitride, comprising:

forming a mixture comprising a preform and a borazine oligomer;

subjecting the mixture to a first heating, for 12 hours to 56 hours; and

subjecting the mixture to a second heating;

wherein the temperature of the first heating is 60 °C to 80 °C, and the pressure of the first heating is at least 0.5 MPa,

the temperature of the second heating is at most 400 °C, and the greatest pressure of the second heating is at least 15 MPa,

the preform is a 3D needled carbon fiber perform, and

the composite material comprises a 3D needled carbon fiber preform impregnated with boron nitride having a density of at least 1.63 g/cc.

21. (Original) The method of claim 20, further comprising subjecting the mixture to a third heating, wherein the temperature of the third heating is at least 1200 °C.

22. (Original) The method of claim 20, wherein the borazine oligomer is obtained by heating borazine for 24 to 48 hours, at a temperature of 60 °C to 80 °C.

23. (Cancelled)

24. (Previously presented) A method of manufacturing a composite material comprising boron nitride, comprising:

forming a mixture comprising a preform and a borazine oligomer; subjecting the mixture to a first heating, for 12 hours to 56 hours; and

subjecting the mixture to a second heating;

wherein the temperature of the first heating is 60 °C to 80 °C, and the pressure of the first heating is at least 0.5 MPa,

the temperature of the second heating is at most 400 °C, and the greatest pressure of the second heating is at least 15 MPa,

the preform is a CVI-infiltrated 3D needled carbon fiber perform, and

the composite material comprises a CVI-infiltrated carbon fiber preform impregnated with boron nitride having a density of at least 1.62 g/ cc.

25-27. (Cancelled)

28. (Previously presented) The method of claim 20, wherein the composite material has a density of 1.63 g/cc to 1.72 g/cc.

29. (Cancelled)

30. (Previously presented) The method of claim 24, wherein the composite material has a density of 1.62 to 1.80 g/cc.

31. (Previously presented) The method of claim 20, wherein the composite material comprises a 3D needled carbon fiber preform impregnated with boron nitride having a wear rate of at most 0.05 mg/m at an energy level of 100 kJ/kg to 1000 kJ/kg, and a coefficient of friction of at least 0.12 at an energy level of 100 kJ/kg to 900 kJ/kg.

32-37. (Cancelled)

38. (Previously presented) The method of claim 24, further comprising subjecting the mixture to a third heating, wherein the temperature of the third heating is at least 1200 °C.

39. (Previously presented) The method of claim 24, wherein the borazine oligomer is obtained by heating borazine for 24 to 48 hours, at a temperature of 60 °C to 80 °C.

40. (New) The method of claim 2, further comprising subjecting the mixture to a fourth heating, wherein the temperature of the fourth heating is at least 1200 °C.

41. (New) The method of claim 21, further comprising subjecting the mixture to a fourth heating, wherein the temperature of the fourth heating is at least 1200 °C.

42. (New) The method of claim 38, further comprising subjecting the mixture to a fourth heating, wherein the temperature of the fourth heating is at least 1200 °C.